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Patent claims

1. Method for checking the transmission quality in a packet network (IPNET) which is effectively connected to at least one packet-based switching system (P-Vst), in which
 - 5 - controlled by at least one packet-based switching system (PVst), test information (pinf) is transmitted from a director function arranged in a resource server (R-Serv) via at least one gateway (GW1) to a responder function, and
 - the test information (pinf) received is evaluated with regard to
 - 10 criteria relating to the transmission criteria.
2. Method according to Claim 1, characterized in that
 - the director function and the responder function are arranged in the same resource server (R-Serv).
- 15 3. Method in accordance with Claim 1 or 2, characterized in that direction function and/or responder function are available on director or responder modules arranged in the resource server (R-Serv).
- 20 4. Method according to one of the previous claims characterized in that
 - the test information (pinf) is evaluated in the resource server (R-Serv) or in a packet-based switch (PVst).
5. Method according to one of the previous claims
- 25 characterized in that
 - a test report is created.

6. Method according to one of the previous claims characterized in that

- a bidirectional connection is established between the resource server (R-Serv) and the gateway (GW1).

5 7. Method according to one of the previous claims characterized in that

- a connection is set up between the resource server (R-Serv) and the gateway (GW1) by a packet-based switching system (P-Vst),
- test information (pinf) is transmitted over the connection to the
10 gateway (GW1) from the resource server (R-Serv),
- the test information (pinf) is looped back in the gateway (GW1),
- the looped-back test information (pinf) is transmitted back to the resource server (R-) and
- the looped-back test information (pinf) is evaluated with regard
15 to criteria relating to the transmission quality.

8. Method in accordance with one of the Claims 1 to 6, characterized in that

- a connection is set up between the resource server (R-Serv) and the gateway (GW1) by a packet-based switching system (P-Vst),
- 20 - a connection is set up between the gateway (GW1) and a second gateway (GW2) by a packet-based switching system (P-Vst),
- a connection is set up between the second gateway (GW2) and the resource server (R-Serv) by a packet-based switching system (P-Vst),
- test information (pinf) about the connections set up is initially
25 transmitted from the resource server (R-Server) to the gateway

(GW1), from the gateway (GW1) to the second gateway (GW2) and from the second gateway (GW2) to the resource server (R-Serv), and
- the test information (pinf) is evaluated with regard to criteria relating to the transmission criteria.

5 9. Method in accordance with one of the Claims 1 to 6, characterized in that

- a connection is set up between the resource server (R-Serv) and the gateway (GW1) by a packet-based switching system (P-Vst),

- a connection is set up between the gateway (GW1) and a second

10 gateway (GW2) by the packet-based switching system (P-Vst),

- test information (pinf) about the connections set up is initially transmitted from the resource server (R-Server) to the gateway

(GW1), and from the gateway (GW1) to the second gateway (GW2),

- the test information (pinf) is looped back in the second gateway

15 (GW2),

- the looped-back test information (pinf) is transmitted over the connections set up initially from the second gateway (GW2) to the gateway (GW1) and then from the gateway (GW2) to the resource server (R-Serv), and

20 - the test information (pinf) is evaluated with regard to criteria relating to the transmission quality.

10. Method in accordance with Claim 7 and 8, characterized in that

- a first method is executed in accordance with Claim 7 for a first

25 gateway (GW1) and a resource server (R-Serv),

- a second method is executed in accordance with Claim 7 for a second gateway (GW2) and the resource server (R-Serv),

- a third method is executed in accordance with Claim 8 for the first gateway (GW1), the second gateway (GW2) and the resource server (R-Serv), and

5 - the results of the three methods are combined for checking the transmission quality on the transmission section between the first gateway (GW1) and the second gateway (GW2).

11. Method in accordance with Claim 7 and 9, characterized in that

10 - a first method is executed in accordance with Claim 7 for a first gateway (GW1) and a resource server (R-Serv),

- a second method is executed in accordance with Claim 9 for the first gateway (GW1), the second gateway (GW2) and the resource server (R-Serv), and - the results of the two methods are combined for checking the transmission quality on the transmission section
15 between the first gateway (GW1) and the second gateway (GW2).

12. Method in accordance with one of the Claims 1 to 11, characterized in that the voice quality is evaluated in accordance with the ITU-T Standards P.861 or P.862.

20 13. Resource server in a packet network (IPNET) which is controlled by a packet-based switch (P-Vst) with a director and a responder module means to execute transmission quality checks according to one of the methods 1 to 12.

14. Resource server in accordance with Claim 13,
25 with interfaces of the resource server (R-Serv) to test desks.

15. Resource server in accordance with Claim 13 or 14,
with means for evaluating results of transmission quality checks
according to one of the methods 1 to 10.

16. Resource server in accordance with one of the Claims 13 to 15,
5 characterized in that
the voice quality is evaluated by the resource server in accordance
with the ITU-T Standards P.861 or P.862.

17. Gateway in a packet network (IPNET) with a loopback
functionality for executing one of the methods 1 to 12.

10 18. Gateway in accordance with Claim 17,
which is embodied as a media gateway, an access gateway or a
residential gateway.

19. Gateway in accordance with Claim 17 or 18,
characterized in that

15 - the loopback functionality is implemented with the aid of
separately addressable virtual ports used exclusively for test
purposes.

20. Gateway in accordance with one of the Claims 17 to 19,
in which the loopback functionality is implemented with the aid of a
20 TDM (time division multiplexer) loop.

21. System in a packet network (IPNET) for executing one of the
methods 1 to 12,

- with at least one packet-based switch (PVst),
- with at least one resource server (R-Serv) in accordance with one
25 of the Claims 11 to 13, and
- with at least one gateway in accordance with one of the Claims 17
to 20.